Advanced Nanofibrous Scaffolds to Influence Endothelial Cell Activity

Propositions

Accompanying the dissertation

Advanced Nanofibrous Scaffolds to Influence Endothelial Cell Activity: Towards Improved Strategies for Vascularized Tissue Regeneration

By

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Maastricht, 8th May 2020

1. Structural properties of scaffolds (fiber alignment) can control orientation and distribution of cells, which may be used to engineer bone tissue with a defined direction. (*This dissertation*)
2. The self-assembly of honeycomb gradients is mainly ascribed to the gradients in the applied electric field. (*This dissertation*)
3. Endothelial cells are highly sensitive to their local microenvironment and can respond to geometric cues to form capillary networks. (*This dissertation*)
4. The advantages of VEGF peptide-factionalized fibrous scaffolds, especially including the capacity of photopatterning, make them attractive for vascular tissue engineering. (*This dissertation*)
5. Researchers from fields ranging from cell biology to materials science to chemistry to clinical medicine have all come together to develop the tools necessary to regenerate damaged tissues in the human body. (*E. Thomas Pashuck*)
6. Angiogenesis physiologically takes place in the ECM, a highly dynamic 3D milieu that provides the instructive biomechanical and biomolecular microenvironment in which morphogenesis proceeds. (*Priscilla S. Briquez*)
7. Scaffolds can serve as cellular systems or as delivery vehicles for cells and drugs in tissue regeneration. (*Afra Hadjizadeh*)
8. Investigating the effect of honeycomb pattern on angiogenesis will pave the way towards the fabrication of advanced angiogenic scaffolds that hold to be more promising for clinical applications. (*This dissertation*)
9. My highest principle is: no matter what difficulties, never give up. (*Marie Curie*)
10. Optimism is the faith that leads to achievement. Nothing can be done without hope and confidence. (*Helen Keller*)